

## SEQUENCE LISTING

<110> Takeda Chemical Industries, Ltd.

<120> Use of Peptide

<130> 2584WOOP

<150> JP 10-369585

<151> 1998-12-25

<160> 45

<210> 1

<211> 98

<212> PRT

<213> Bovine

<400> 1

Met Lys Ala Val Gly Ala Trp Leu Leu Cys Leu Leu Leu Gly Leu

1 5 10 15

Ala Leu Gln Gly Ala Ala Ser Arg Ala His Gln His Ser Met Glu Ile

20 25 30

Arg Thr Pro Asp Ile Asn Pro Ala Trp Tyr Ala Gly Arg Gly Ile Arg

35 40 45

Pro Val Gly Arg Phe Gly Arg Arg Arg Ala Ala Pro Gly Asp Gly Pro

50 55 60

Arg Pro Gly Pro Arg Arg Val Pro Ala Cys Phe Arg Leu Glu Gly Gly

65 70 75 80

Ala Glu Pro Ser Arg Ala Leu Pro Gly Arg Leu Thr Ala Gln Leu Val

85 90 95

2/17

Gln Glu

&lt;210&gt; 2

&lt;211&gt; 294

&lt;212&gt; DNA

&lt;213&gt; Bovine

&lt;400&gt; 2

ATGAAGGCGG TGGGGGCCTG GCTCCTCTGC CTGCTGCTGC TGGGCCTGGC CCTGCAGGGG 60  
 GCTGCCAGCA GAGCCCACCA GCACTCCATG GAGATCCGCA CCCCCGACAT CAACCCTGCC 120  
 TGGTACGCRG GCCGTGGGAT CCGGCCCCGTG GGCCGCTTCG GCCGGCGAAG AGCTGCCCCY 180  
 GGGGACGGAC CCAGGCCTGG CCCCCGGCGT GTGCCGGCCT GCTTCCGCCT GGAAGGCGGY 240  
 GCTGAGCCCT CCCGAGCCCT CCCGGGGCGG CTGACGGCCC AGCTGGTCCA GGAA 294

&lt;210&gt; 3

&lt;211&gt; 31

&lt;212&gt; PRT

&lt;213&gt; Bovine

&lt;400&gt; 3

Ser Arg Ala His Gln His Ser Met Glu Ile Arg Thr Pro Asp Ile Asn

1

5

10

15

Pro Ala Trp Tyr Ala Gly Arg Gly Ile Arg Pro Val Gly Arg Phe

20

25

30

&lt;210&gt; 4

&lt;211&gt; 32

&lt;212&gt; PRT

&lt;213&gt; Bovine

&lt;400&gt; 4

3/17

Ser Arg Ala His Gln His Ser Met Glu Ile Arg Thr Pro Asp Ile Asn

1                      5                      10                      15

Pro Ala Trp Tyr Ala Gly Arg Gly Ile Arg Pro Val Gly Arg Phe Gly

20                      25                      30

<210> 5

<211> 33

<212> PRT

<213> Bovine

<400> 5

Ser Arg Ala His Gln His Ser Met Glu Ile Arg Thr Pro Asp Ile Asn

1                      5                      10                      15

Pro Ala Trp Tyr Ala Gly Arg Gly Ile Arg Pro Val Gly Arg Phe Gly

20                      25                      30

Arg

33

<210> 6

<211> 20

<212> PRT

<213> Bovine

<400> 6

Thr Pro Asp Ile Asn Pro Ala Trp Tyr Ala Gly Arg Gly Ile Arg Pro

1                      5                      10                      15

Val Gly Arg Phe

20

<210> 7

&lt;211&gt; 21

&lt;212&gt; PRT

&lt;213&gt; Bovine

&lt;400&gt; 7

Thr Pro Asp Ile Asn Pro Ala Trp Tyr Ala Gly Arg Gly Ile Arg Pro

1 5 10 15

Val Gly Arg Phe Gly

20

&lt;210&gt; 8

&lt;211&gt; 22

&lt;212&gt; PRT

&lt;213&gt; Bovine

&lt;400&gt; 8

Thr Pro Asp Ile Asn Pro Ala Trp Tyr Ala Gly Arg Gly Ile Arg Pro

1 5 10 15

Val Gly Arg Phe Gly Arg

20

&lt;210&gt; 9

&lt;211&gt; 93

&lt;212&gt; DNA

&lt;213&gt; Bovine

&lt;400&gt; 9

AGCAGAGCCC ACCAGCACTC CATGGAGATC CGCACCCCCG ACATCAACCC TGCCTGGTAC 60

GCRGGCCGTG GGATCCGGCC CGTGGGCCGC TTC

93

&lt;210&gt; 10

5/17

&lt;211&gt; 96

&lt;212&gt; DNA

&lt;213&gt; Bovine

&lt;400&gt; 10

AGCAGAGCCC ACCAGCACTC CATGGAGATC CGCACCCCCG ACATCAACCC TGCCTGGTAC 60  
GCRGGCCGTG GGATCCGGCC CGTGGGCCGC TTCGGC 96

&lt;210&gt; 11

&lt;211&gt; 99

&lt;212&gt; DNA

&lt;213&gt; Bovine

&lt;400&gt; 11

AGCAGAGCCC ACCAGCACTC CATGGAGATC CGCACCCCCG ACATCAACCC TGCCTGGTAC 60  
GCRGGCCGTG GGATCCGGCC CGTGGGCCGC TTCGGCCG 99

&lt;210&gt; 12

&lt;211&gt; 60

&lt;212&gt; DNA

&lt;213&gt; Bovine

&lt;400&gt; 12

ACCCCCGACA TCAACCCTGC CTGGTACGCR GGCCGTGGGA TCCGGCCCGT GGGCCGCTTC 60

&lt;210&gt; 13

&lt;211&gt; 63

&lt;212&gt; DNA

&lt;213&gt; Bovine

&lt;400&gt; 13

ACCCCCGACA TCAACCCTGC CTGGTACGCR GGCCGTGGGA TCCGGCCCGT GGGCCGCTTC 60



7/17

Gln Glu

&lt;210&gt; 16

&lt;211&gt; 83

&lt;212&gt; PRT

&lt;213&gt; Rat

&lt;400&gt; 16

Met Ala Leu Lys Thr Trp Leu Leu Cys Leu Leu Leu Ser Leu Val

1

5

10

15

Leu Pro Gly Ala Ser Ser Arg Ala His Gln His Ser Met Glu Thr Arg

20

25

30

Thr Pro Asp Ile Asn Pro Ala Trp Tyr Thr Gly Arg Gly Ile Arg Pro

35

40

45

Val Gly Arg Phe Gly Arg Arg Arg Ala Thr Pro Arg Asp Val Thr Gly

50

55

60

Leu Gly Gln Leu Ser Cys Leu Pro Leu Asp Gly Arg Thr Lys Phe Ser

65

70

75

80

Gln Arg Gly

&lt;210&gt; 17

&lt;211&gt; 249

&lt;212&gt; DNA

&lt;213&gt; Rat

&lt;400&gt; 17

ATGGCCCTGA AGACGTGGCT TCTGTGCTTG CTGCTGCTAA GCTTGGTCCT CCCAGGGGCT 60

TCCAGCCGAG CCCACCAGCA CTCCATGGAG ACAAGAACCC CTGATATCAA TCCTGCCTGG 120

TACACGGGCC GCGGGATCAG GCCTGTGGGC CGCTTCGGCA GGAGAAGGGC AACCCCGAGG 180

8/17

GATGTCACTG GACTTGGCCA ACTCAGCTGC CTCCCACTGG ATGGACGCAC CAAGTTCTCT 240

CAGCGTGGA 249

&lt;210&gt; 18

&lt;211&gt; 31

&lt;212&gt; PRT

&lt;213&gt; Rat

&lt;400&gt; 18

Ser Arg Ala His Gln His Ser Met Glu Thr Arg Thr Pro Asp Ile Asn

1 5 10 15

Pro Ala Trp Tyr Thr Gly Arg Gly Ile Arg Pro Val Gly Arg Phe

20 25 30

&lt;210&gt; 19

&lt;211&gt; 32

&lt;212&gt; PRT

&lt;213&gt; Rat

&lt;400&gt; 19

Ser Arg Ala His Gln His Ser Met Glu Thr Arg Thr Pro Asp Ile Asn

1 5 10 15

Pro Ala Trp Tyr Thr Gly Arg Gly Ile Arg Pro Val Gly Arg Phe Gly

20 25 30

&lt;210&gt; 20

&lt;211&gt; 33

&lt;212&gt; PRT

&lt;213&gt; Rat

&lt;400&gt; 20



9/17

Ser Arg Ala His Gln His Ser Met Glu Thr Arg Thr Pro Asp Ile Asn

1                      5                      10                      15

Pro Ala Trp Tyr Thr Gly Arg Gly Ile Arg Pro Val Gly Arg Phe Gly

20                      25                      30

Arg

<210> 21

<211> 20

<212> PRT

<213> Rat

<400> 21

Thr Pro Asp Ile Asn Pro Ala Trp Tyr Thr Gly Arg Gly Ile Arg Pro

1                      5                      10                      15

Val Gly Arg Phe

20

<210> 22

<211> 21

<212> PRT

<213> Rat

<400> 22

Thr Pro Asp Ile Asn Pro Ala Trp Tyr Thr Gly Arg Gly Ile Arg Pro

1                      5                      10                      15

Val Gly Arg Phe Gly

20

<210> 23

<211> 22

10/17

&lt;212&gt; PRT

&lt;213&gt; Rat

&lt;400&gt; 23

Thr Pro Asp Ile Asn Pro Ala Trp Tyr Thr Gly Arg Gly Ile Arg Pro

1

5

10

15

Val Gly Arg Phe Gly Arg

20

&lt;210&gt; 24

&lt;211&gt; 93

&lt;212&gt; DNA

&lt;213&gt; Rat

&lt;400&gt; 24

AGCCGAGCCC ACCAGCACTC CATGGAGACA AGAACCCCTG ATATCAATCC TGCCTGGTAC 60

ACGGGCCGCG GGATCAGGCC TGTGGGCCGC TTC 93

&lt;210&gt; 25

&lt;211&gt; 96

&lt;212&gt; DNA

&lt;213&gt; Rat

&lt;400&gt; 25

AGCCGAGCCC ACCAGCACTC CATGGAGACA AGAACCCCTG ATATCAATCC TGCCTGGTAC 60

ACGGGCCGCG GGATCAGGCC TGTGGGCCGC TTCGGC 96

&lt;210&gt; 26

&lt;211&gt; 99

&lt;212&gt; DNA

&lt;213&gt; Rat

AGCCGAGCCC ACCAGCACTC CATGGAGACA AGAACCCTG ATATCAATCC TGCCTGGTAC 60  
ACGGGCCGCG GGATCAGGCC TGTGGGCCGC TTCGGCAGG 99

ACCCCTGATA TCAATCCTGC CTGGTACACG GGCCGCGGGA TCAGGCCTGT GGGCCGCTTC 60

ACCCCTGATA TCAATCCTGC CTGGTACACG GGCCGCGGGA TCAGGCCTGT GGGCCGCTTC 60

ACCCCTGATA TCAATCCTGC CTGGTACACG GGCCGCGGGA TCAGGCCTGT GGGCCGCTTC 60

$\langle 211 \rangle$  87

12/17

&lt;212&gt; PRT

&lt;213&gt; Human

&lt;400&gt; 30

Met Lys Val Leu Arg Ala Trp Leu Leu Cys Leu Leu Met Leu Gly Leu

1 5 10 15

Ala Leu Arg Gly Ala Ala Ser Arg Thr His Arg His Ser Met Glu Ile

20 25 30

Arg Thr Pro Asp Ile Asn Pro Ala Trp Tyr Ala Ser Arg Gly Ile Arg

35 40 45

Pro Val Gly Arg Phe Gly Arg Arg Arg Ala Thr Leu Gly Asp Val Pro

50 55 60

Lys Pro Gly Leu Arg Pro Arg Leu Thr Cys Phe Pro Leu Glu Gly Gly

65 70 75 80

Ala Met Ser Ser Gln Asp Gly

85

&lt;210&gt; 31

&lt;211&gt; 261

&lt;212&gt; DNA

&lt;213&gt; Human

&lt;400&gt; 31

ATGAAGGTGC TGAGGGCCTG GCTCCTGTGC CTGCTGATGC TGGGCCTGGC CCTGCGGGGA 60

GCTGCAAGTC GTACCCATCG GCACTCCATG GAGATCCGCA CCCCTGACAT CAATCCTGCC 120

TGGTACGCCA GTCGCGGGAT CAGGCCTGTG GGCCGCTTCG GTCGGAGGAG GGCAACCCTG 180

GGGGACGTCC CCAAGCCTGG CCTGCGACCC CGGCTGACCT GCTTCCCCCT GGAAGGCGGT 240

GCTATGTCGT CCCAGGATGG C 261

13/17

&lt;210&gt; 32

&lt;211&gt; 31

&lt;212&gt; PRT

&lt;213&gt; Human

&lt;400&gt; 32

Ser Arg Thr His Arg His Ser Met Glu Ile Arg Thr Pro Asp Ile Asn

1	5	10	15
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Pro Ala Trp Tyr Ala Ser Arg Gly Ile Arg Pro Val Gly Arg Phe

20	25	30
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&lt;210&gt; 33

&lt;211&gt; 32

&lt;212&gt; PRT

&lt;213&gt; Human

&lt;400&gt; 33

Ser Arg Thr His Arg His Ser Met Glu Ile Arg Thr Pro Asp Ile Asn

1	5	10	15
---	---	----	----

Pro Ala Trp Tyr Ala Ser Arg Gly Ile Arg Pro Val Gly Arg Phe Gly

20	25	30
----	----	----

&lt;210&gt; 34

&lt;211&gt; 33

&lt;212&gt; PRT

&lt;213&gt; Human

&lt;400&gt; 34

Ser Arg Thr His Arg His Ser Met Glu Ile Arg Thr Pro Asp Ile Asn

1	5	10	15
---	---	----	----

14/17

Pro Ala Trp Tyr Ala Ser Arg Gly Ile Arg Pro Val Gly Arg Phe Gly

20

25

30

Arg

&lt;210&gt; 35

&lt;211&gt; 20

&lt;212&gt; PRT

&lt;213&gt; Human

&lt;400&gt; 35

Thr Pro Asp Ile Asn Pro Ala Trp Tyr Ala Ser Arg Gly Ile Arg Pro

1

5

10

15

Val Gly Arg Phe

20

&lt;210&gt; 36

&lt;211&gt; 21

&lt;212&gt; PRT

&lt;213&gt; Human

&lt;400&gt; 36

Thr Pro Asp Ile Asn Pro Ala Trp Tyr Ala Ser Arg Gly Ile Arg Pro

1

5

10

15

Val Gly Arg Phe Gly

20

&lt;210&gt; 37

&lt;211&gt; 22

&lt;212&gt; PRT

&lt;213&gt; Human

15/17

&lt;400&gt; 37

Thr Pro Asp Ile Asn Pro Ala Trp Tyr Ala Ser Arg Gly Ile Arg Pro

1

5

10

15

Val Gly Arg Phe Gly Arg

20

&lt;210&gt; 38

&lt;211&gt; 93

&lt;212&gt; DNA

&lt;213&gt; Human

&lt;400&gt; 38

AGTCGTACCC ATCGGCACTC CATGGAGATC CGCACCCCTG ACATCAATCC TGCCTGGTAC 60

GCCAGTCGCG GGATCAGGCC TGTGGGCCGC TTC 93

&lt;210&gt; 39

&lt;211&gt; 96

&lt;212&gt; DNA

&lt;213&gt; Human

&lt;400&gt; 39

AGTCGTACCC ATCGGCACTC CATGGAGATC CGCACCCCTG ACATCAATCC TGCCTGGTAC 60

GCCAGTCGCG GGATCAGGCC TGTGGGCCGC TTCGGT 96

&lt;210&gt; 40

&lt;211&gt; 99

&lt;212&gt; DNA

&lt;213&gt; Human

&lt;400&gt; 40

AGTCGTACCC ATCGGCACTC CATGGAGATC CGCACCCCTG ACATCAATCC TGCCTGGTAC 60

GCCAGTCGCG GGATCAGGCC TGTGGGCCGC TTCGGTCGG

99

&lt;210&gt; 41

&lt;211&gt; 60

&lt;212&gt; DNA

&lt;213&gt; Human

&lt;400&gt; 41

ACCCCTGACA TCAATCCTGC CTGGTACGCC AGTCGCGGGA TCAGGCCTGT GGGCCGCTTC 60

&lt;210&gt; 42

&lt;211&gt; 63

&lt;212&gt; DNA

&lt;213&gt; Human

&lt;400&gt; 42

ACCCCTGACA TCAATCCTGC CTGGTACGCC AGTCGCGGGA TCAGGCCTGT GGGCCGCTTC 60

GGT

63

&lt;210&gt; 43

&lt;211&gt; 66

&lt;212&gt; DNA

&lt;213&gt; Human

&lt;400&gt; 43

ACCCCTGACA TCAATCCTGC CTGGTACGCC AGTCGCGGGA TCAGGCCTGT GGGCCGCTTC 60

GGTCGG

66

&lt;210&gt; 44

&lt;211&gt; 31

&lt;212&gt; PRT

&lt;213&gt; Unknown



&lt;220&gt;

&lt;221&gt;

<223> Xaa on the 3rd position means Thr or Ala, Xaa on the 5th position means Arg or Gln, Xaa on the 10th position means Ile or Thr, Xaa on the 21st position means Thr or Ala, Xaa on the 22nd position means Gly or Ser.

&lt;400&gt; 44

Ser Arg Xaa His Xaa His Ser Met Glu Xaa Arg Thr Pro Asp Ile Asn

1 5 10 15

Pro Ala Trp Tyr Xaa Xaa Arg Gly Ile Arg Pro Val Gly Arg Phe

20 25 30

&lt;210&gt; 45

&lt;211&gt; 20

&lt;212&gt; PRT

&lt;213&gt; Unknown

&lt;220&gt;

&lt;221&gt;

<223> Xaa on the 10th position means Thr or Ala, Xaa on the 11th position means Gly or Ser.

&lt;400&gt; 45

Thr Pro Asp Ile Asn Pro Ala Trp Tyr Xaa Xaa Arg Gly Ile Arg Pro

1 5 10 15

Val Gly Arg Phe

20